



# WORKSHOP MANUAL


**270 - 270 V - 2700 - 340 - 3400 - 350 V Transporters**



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# 1) Maintenance and standard adjustments

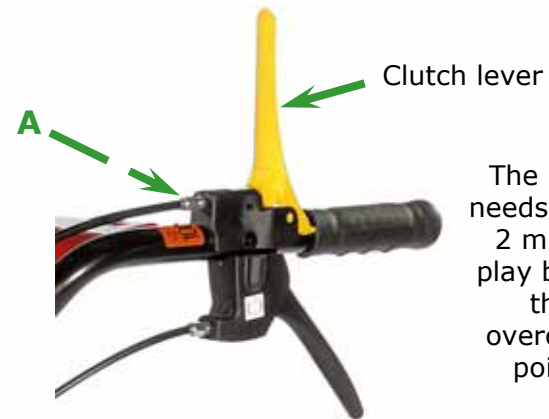
## 1) Maintenance and standard adjustment

- a) Clutch lever
- b) Half axle lever and brake
- c) Throttle adjustment
- d) Track tension
- e) Track removal
- f) Bed removal
- g) Roller inspection exchange

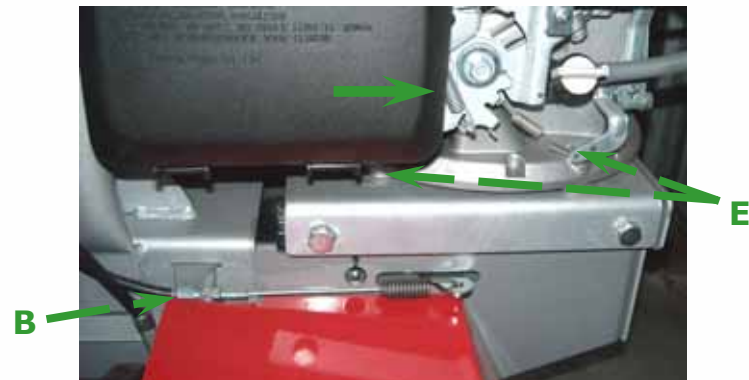
### a) Clutch lever

Problems occurring with the parking brake and or drive insertion you need to adjust the clutch lever:

1. Remove tension on the cable loosening completely adjuster **A** and **B**
2. Remove the selector knob and the rear cover. Loosen the 3 screws **E** and move the engine 5mm to put tension onto the belt (see chapter 2 **b**, belt tension). Tighten screws **E** to lock the adjustment.
3. Adjust **A** and **B** for further regulations.
4. Tighten the lock nut to fix the adjustment.



The lever needs about 2 mm of play before the overcome point.

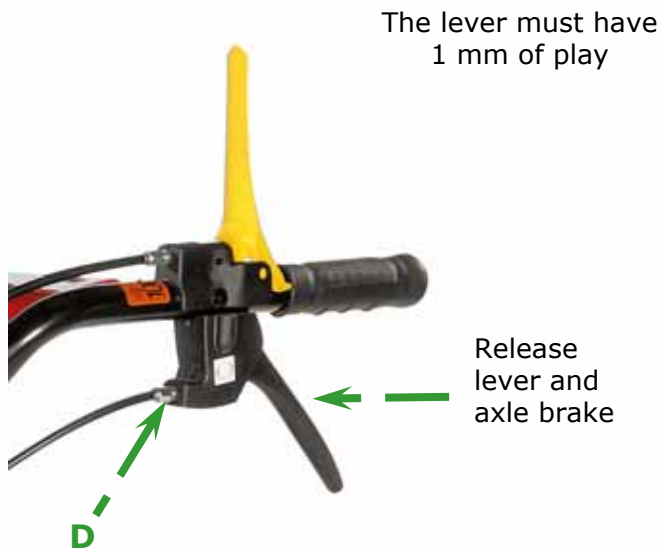


### b) Half axle lever and brake

Every 20 hrs check the adjustment:

1. Loosen the lock nut and tighten the adjuster **D** to remove all tension from the cable. Loosen screw **C** and pull cable as far as possible
2. Loosen the adjuster **D** to have the necessary play on the axle lock cable and brake. **After adjustment verify that the axles un lock and the tracks are blocked**
3. Tighten the lock nut

**N.B.** If the adjustment does not lock the tracks inspect the wear on the brake (see chapter 3 point **c** axle inspection)



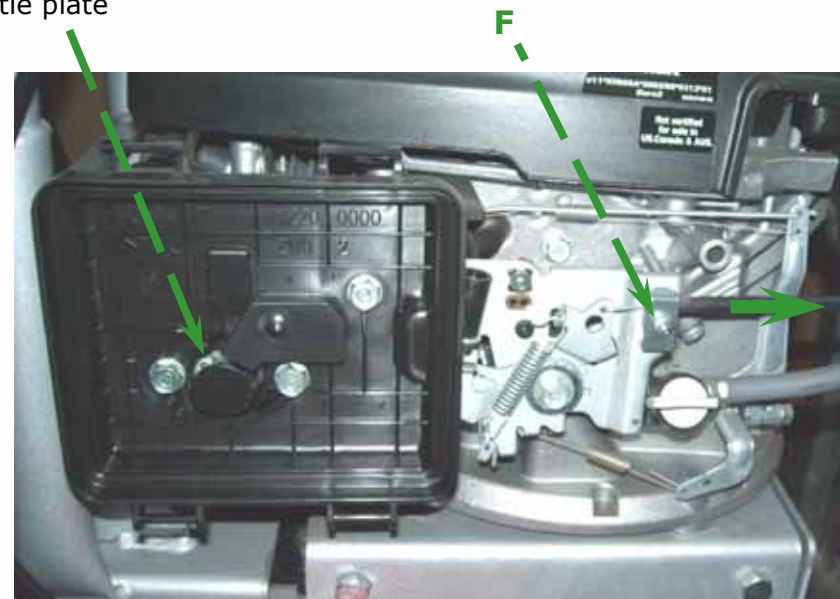
**c) Throttle lever**

If the unit has difficulty starting adjust the throttle cable:

1. Put the throttle into the start position. Remove filter cover and air filter. Make sure the throttle is completely closed
2. If not loosen screw **F** and adjust the cable to have the throttle plate in the closed position
3. Tighten screw **F** to set the adjustment



Throttle plate



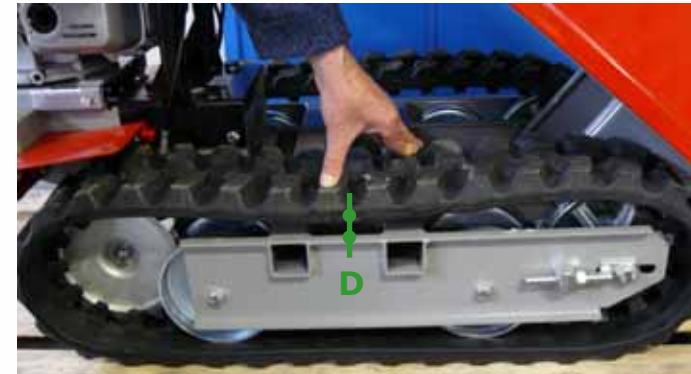
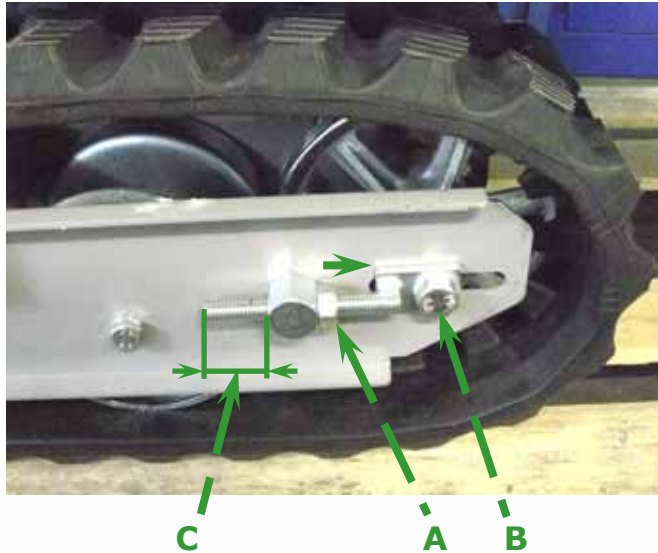
### d) Track adjustment

Every 20 hrs check tracks for flexibility. Push down in the middle the space between the track and the frame should be 25 / 30 mm, if not adjust:

- Loosen bolt **B** (internal and external). Adjust nut **A** until the above measurement is found
- Make sure the length of **C** is the same on both inside and outside. Tighten bolt **B**

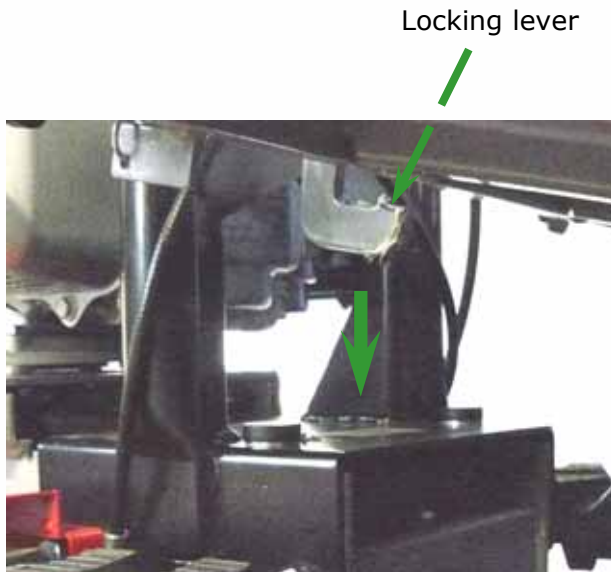
### e) Track removal

- Loosen bolt **B** and nut **A** completely, internally and externally to release tension
- Remove the tracks and inspect the wear condition, exchange if necessary



f) **Bed removal**

- Un hook the locking lever and lower it onto the frame (see photo)
- Remove both pins **A**



**A**



**g) Roller inspection**

Every 70 hours inspect for wear and grease bearings:

- Remove tracks (see point e) loosen bolt **A** (internal & external) and remove roller
- Check for wear and grease, see photo 1. Change is necessary



- **Roller exchange**

Remove the two spacers and pull out the roller bearings



Version with grease nipple:  
grease every 20 - 30 hrs

- **Bearing exchange idler pulley**

Remove the two bearings and the spacer

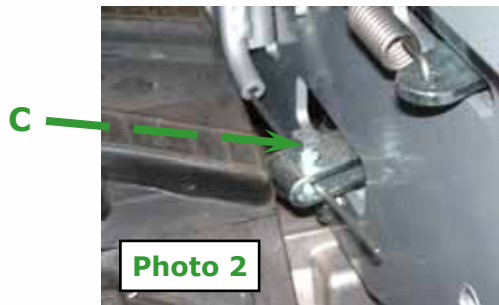
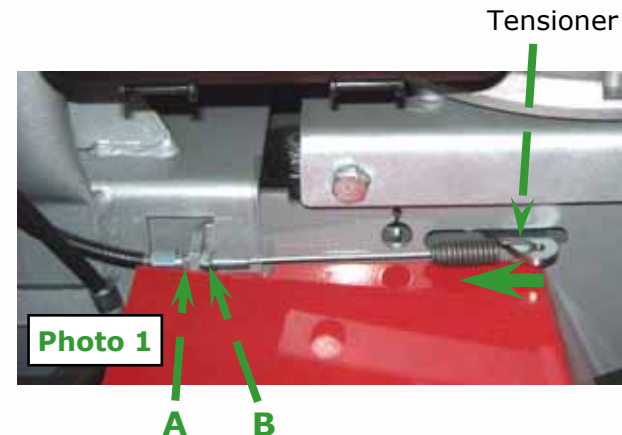


## 2) Further maintenance

- a) **Handle removal**
- b) **Belt tension inspection**
- c) **Engine removal**
- d) **Drive wheel removal**
- e) **Selector removal**
- f) **Pulley removal and brake inspection**
- g) **Flange and transmission removal**

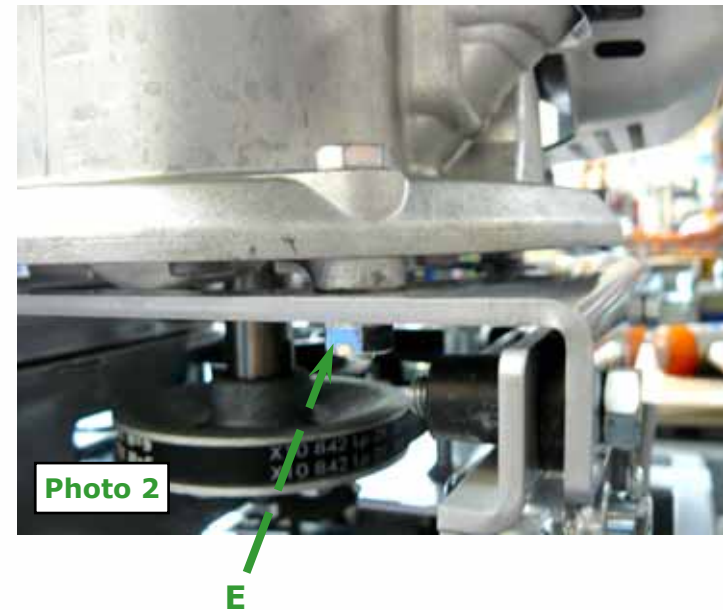
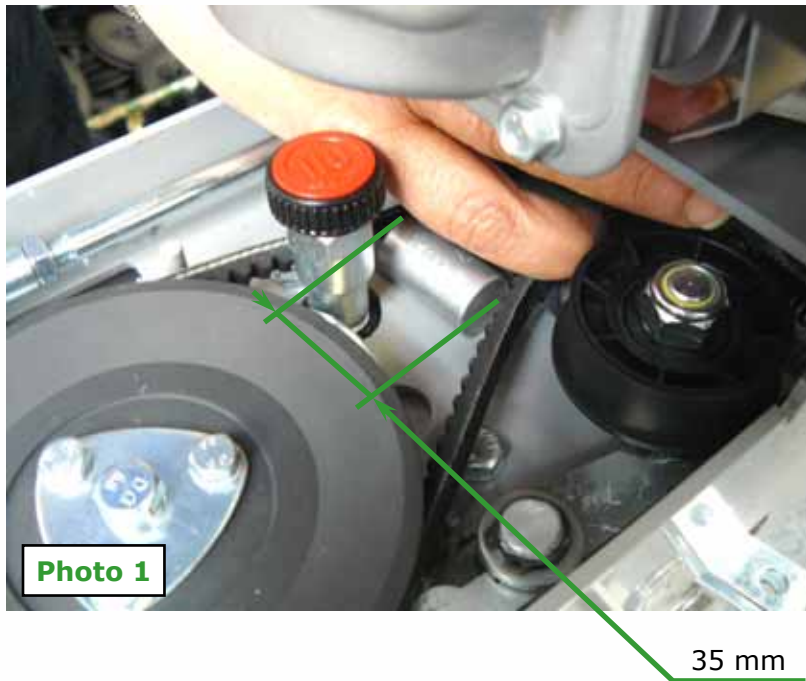
a) **Handle removal**

- Remove both mud guards
- Loosen nut **A** and **B** completely. Move the tensioner and remove completely, see photo 1
- Loosen screw **C** which lock the cables for the half axles and brake (photo 2)
- Loosen bolt **D** and slide out the handle bars (photo 3)



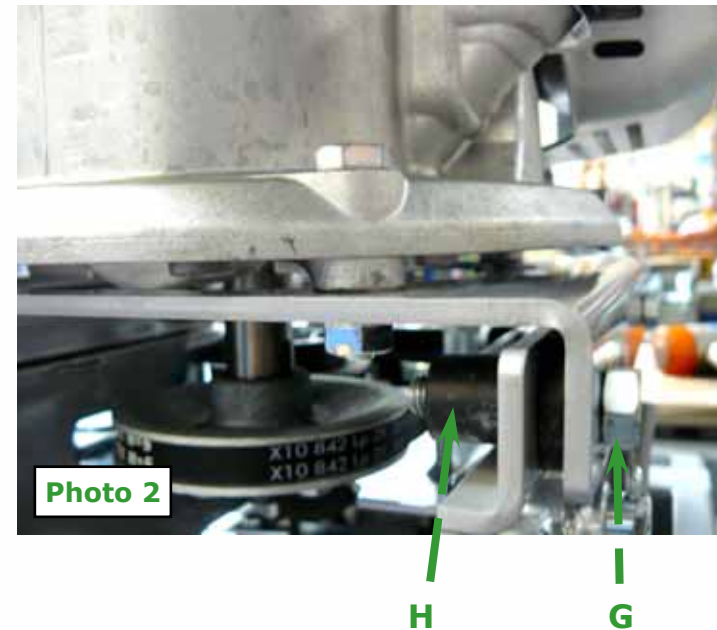
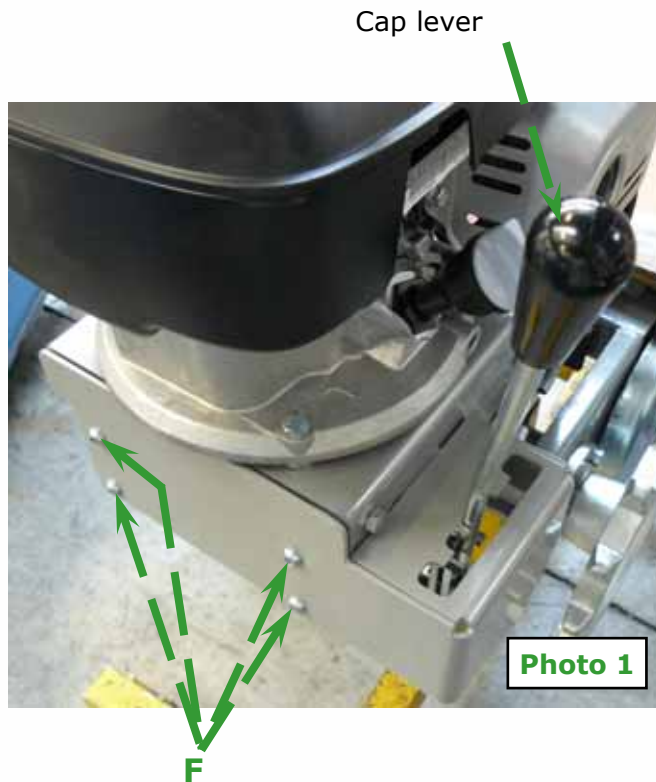
**b) Belt tension**

- Inspect condition, exchange if necessary
- The correct tension of the belt is 35 mm (with little force) (photo 1). If not adjustable remove the knob from the selector and cover (see point **c**) Loosen the 3 screws **E** and move the engine to adjust the belt tension



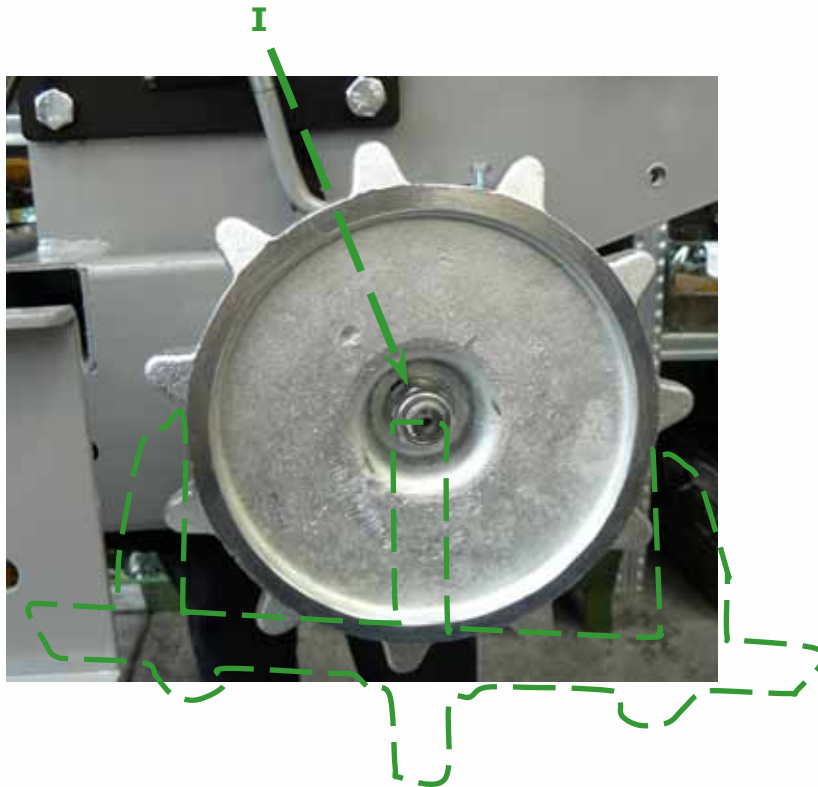
c) **Engine removal**

- Remove the knob from the selector, remove screws (F) and cover (photo 1)
- Remove the 4 screw G holding still rubber block H (photo 2)
- Pull off the engine and support, pay attention to the belt on the drive pulley



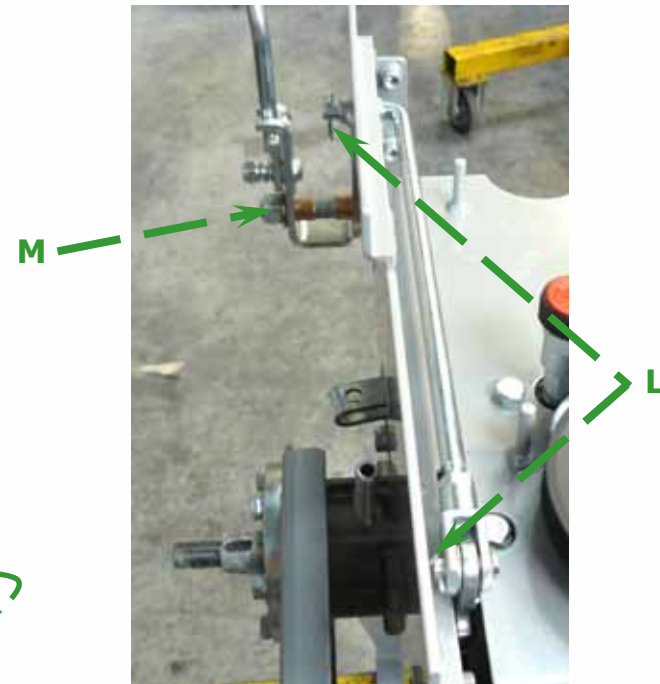
**d) Drive wheel removal**

- Loosen nut **I** and with a puller remove the drive wheel



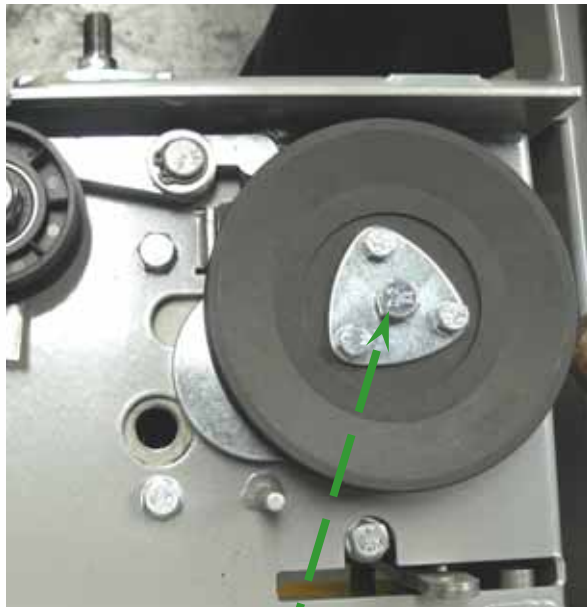
**e) Selector removal**

- Remove the 2 split pins **L**, remove pins from the staff
- Remove nut **M** and remove the selector lever

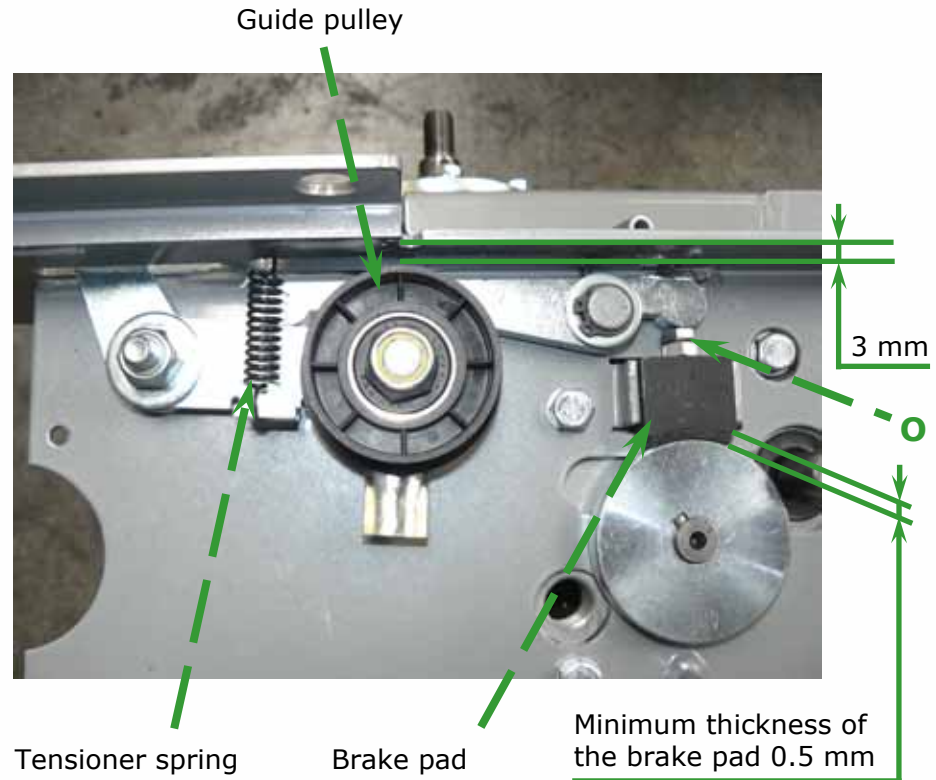


**f) Pulley removal and brake inspection**

- Remove screw **N** and pulley
- Remove tensioner spring
- Check the brake pad for wear (minimum thickness is 0.5 mm) replace if necessary. Make sure during assembly the air gap between idler pulley and frame is **3 mm** (with spring fitted). Adjust bolt **O** on brake pad if necessary
- Lock nut on brake block



**N**



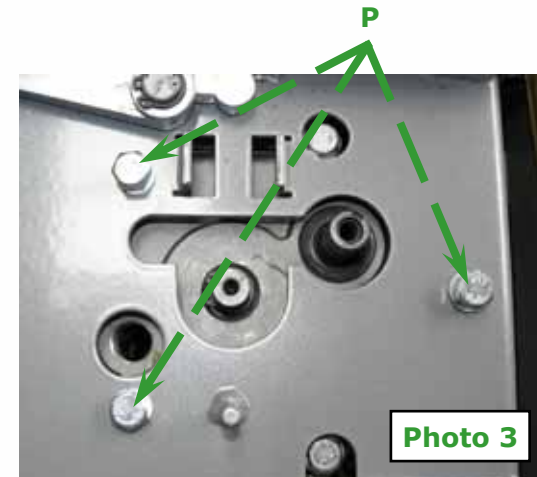
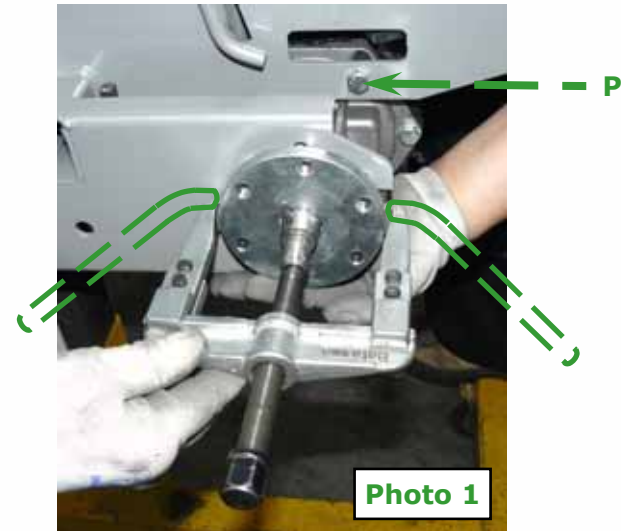
Tensioner spring

Brake pad

Minimum thickness of  
the brake pad 0.5 mm

**g) Flange and transmission removal**

- Remove the 6 screws
- Lever forwards (photo 1) the flange, using a puller remove make sure to pull directly to avoid the bearing locking on the shaft
- When assembling make sure the bearing is correctly fitted in the flange (photo 2)
- Remove screws **P** and slide out the half axle



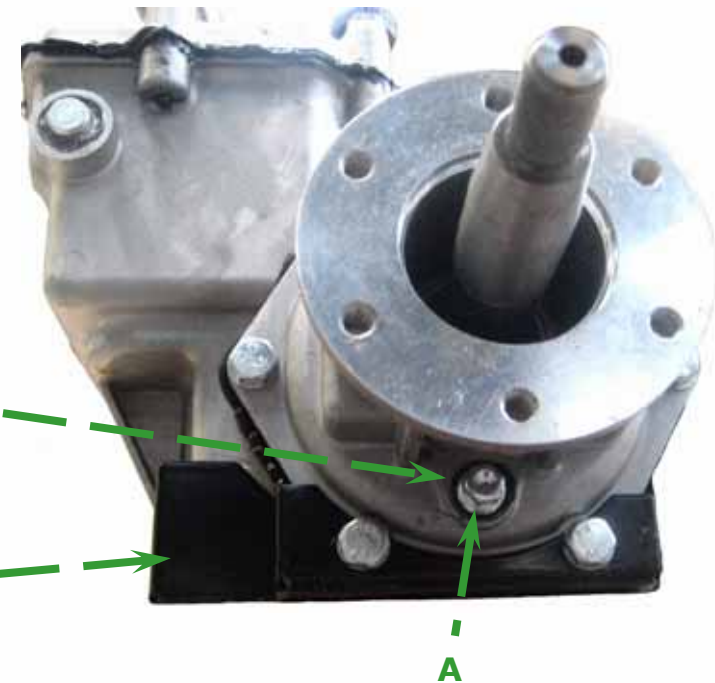
## 3) Gearbox inspection

- a) Transmission removal
- b) Gear wheel
- c) Half axle
- d) Assembly half axles
- e) Gear inspection

- a) **Transmission removal**
  - Remove protection plate
  - Remove oil plug **A** and drain oil

**Attention:**  
After the assembly fill with 1,25 lt of  
SAE 90W/140 oil

Protection plate





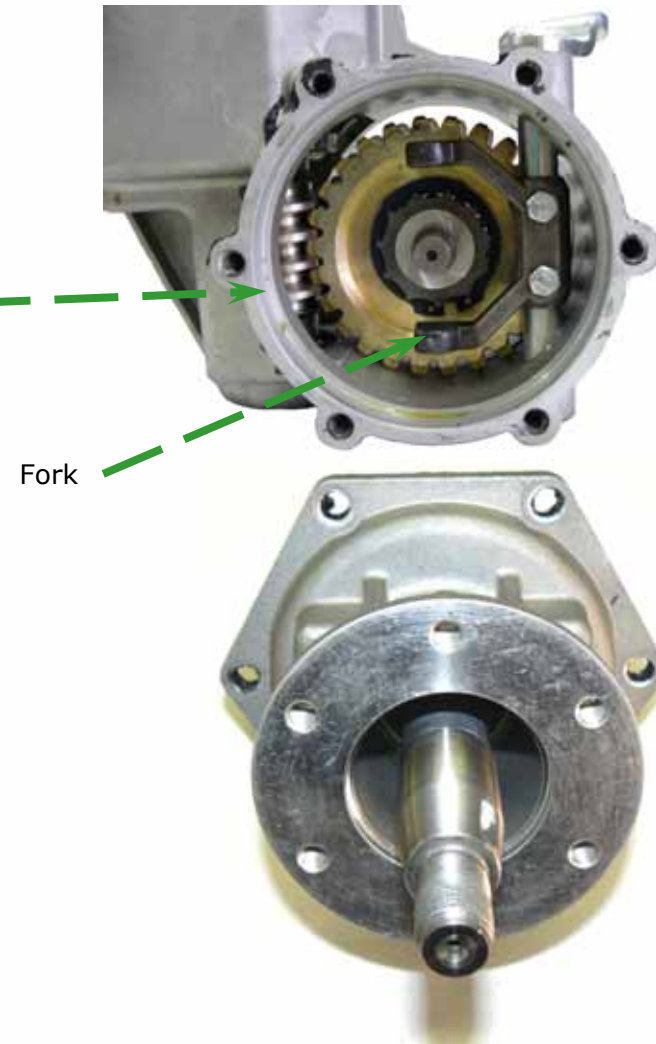
**b) Gear wheel**

- Remove the two half axle supports and the two selector forks
- Remove the gear and inspect condition

**Attention:** Clean the surfaces properly and use a liquid gasket during assembly

**Recommended liquid gasket :**

- SIL 400
- LOXEAL 59-30



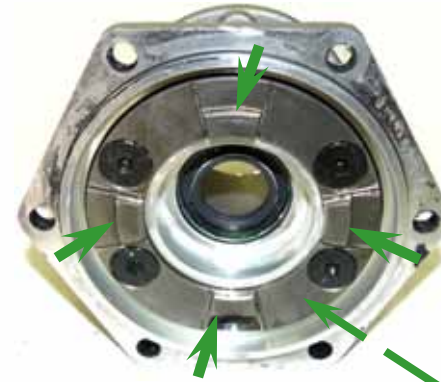
c) **Half axle**

- Remove the axle from the support with a plastic hammer. Check for wear on the thrust plate



- Remove the half axle from the thrust plate with a punch
- Inspect individual parts for wear

**Be careful**  
with the ball  
between the  
axle and the  
thrust plate



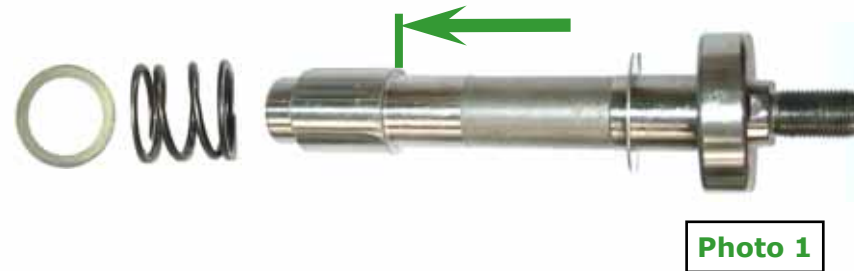
Thrust plate



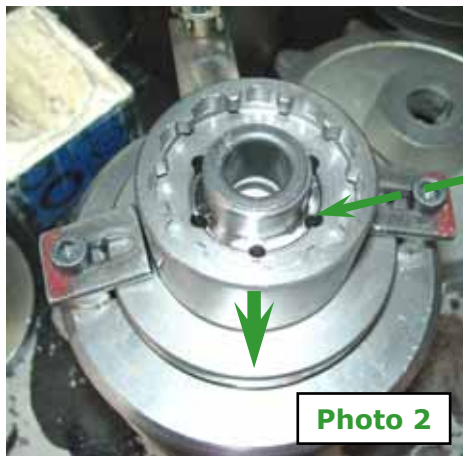
Disconnecting

**d) Assembly half axes**

- Fit spacer ring, bearing to seat (photo 1)
- Fit spacer and spring



- Assemble thrust plate and fit towards the bearing. Insert ball bearing into the seat between half axle and the thrust plate (photo 2)
- Fit the stop plate with a rubber hammer (photo 3)



Insert 3 ball bearings for each hole

Make sure the stop plate is 0.2 mm lower than the bushing



e) **Gear inspection**

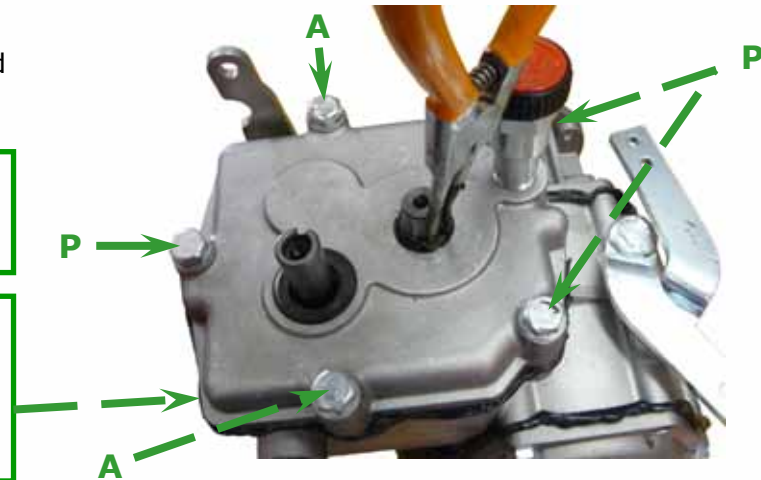
- Remove circlip and loosen the screws **A** and **P** and slide off the cover

**Attention:** During assembly loosen the screw **P** to fit to the gearbox to the frame. (see photo 3 chapter 2, point **g**)

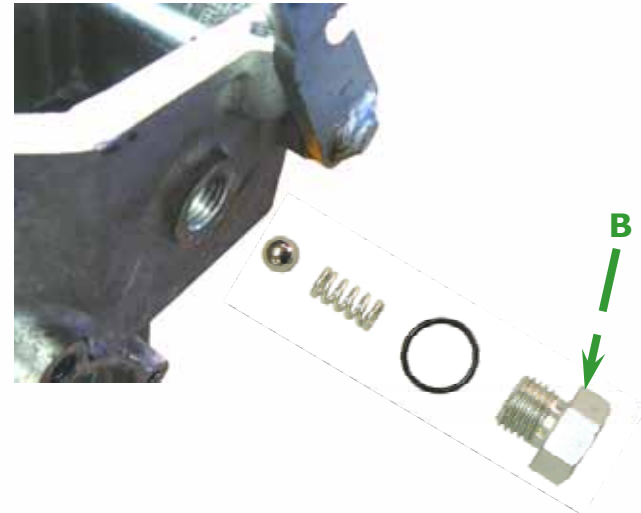
**Attention:** Clean the surfaces and use a liquid gasket between the cover and the gearbox

**Recommended liquid gasket:**

- SIL 400
- LOXEAL 59-30



- Remove screw **B**, gasket, spring and ball bearing



- Remove reverse gear shaft and inspect (photo 1), exchange if worn or damaged



- Remove drive shaft and inspect gears (photo 2). exchange if necessary



- Remove the worm gear and inspect the gears (photo 1) and the throat (photo 3), exchange if necessary

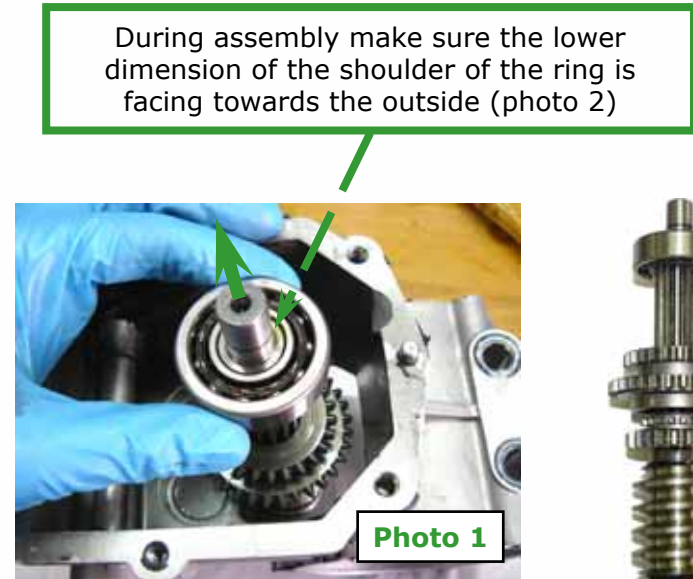


Bearing side  
towards the outside  
of the shaft

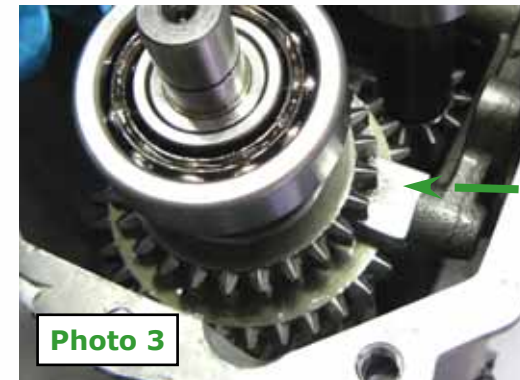
Photo 2



Bearing side  
towards the inside  
of the shaft



- During assembly make sure the shoe is between the throat and the two gears (photo 3)



Throat

## 4) Trouble shooting:

Symptoms	Causes	Remedies	Go to
1. The unit does not have gears	<p><b>1.a</b> Belt tension not correct</p> <p><b>1.b</b> Belt worn or broken</p>	<p><b>1.a</b> Adjust belt tension</p> <p><b>1.b</b> Check and/or change belt</p>	<u><a href="#">Section 2</a></u>
2. The unit does not turn left or right	<p><b>2.a</b> The cables for drive an brake are not correctly adjusted</p>	<p><b>2.a</b> Adjust correctly</p>	<u><a href="#">Section 1</a></u>
3. In the stop position unit still moves. Engine on	<p><b>3.a</b> Belt tension is not correct</p>	<p><b>3.a</b> Adjust belt tension</p>	<u><a href="#">Section 2</a></u>
4. In the stop position on a slope the unit moves with the engine off	<p><b>4.a</b> Brake block is worn or badly adjusted</p>	<p><b>4.a</b> Inspect and/or change brake block</p>	<u><a href="#">Section 2</a></u>
5. Unit noisy during starting	<p><b>5.a</b> Cable tension not correct</p>	<p><b>5.a</b> Adjust cultch cable or plate</p>	<u><a href="#">Section 1</a></u>

## Trouble shooting:

Symptoms	Causes	Remedies	Go to
<b>6.</b> Tracks rub against bed	<b>6.a</b> Track tension not correct	<b>6.a</b> Readjust track tension	<a href="#"><u>Section 1</u></a>
<b>7.</b> Cannot insert gears	<b>7.a</b> Thrusters plate worn	<b>7.a</b> Inspect thrust plate	<a href="#"><u>Section 3</u></a>
<b>8.</b> During movement the gear are noisy	<b>8.a</b> Worm gear bearing not fitted properly	<b>8.a</b> Inspect bearing assembly and worm gear	<a href="#"><u>Section 3</u></a>
<b>9.</b> Engine does not start	<b>9.a</b> Starter plate does not close completely	<b>8.a</b> Check throttle lever adjustment	<a href="#"><u>Section 1</u></a>